REMARKS

Claims 1, 3-7, and 9-15 are now pending in the application. Claims 1, 3-7, and 9-15 stand rejected. Claims 2, 8 and 16 have been cancelled. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

REJECTION UNDER 35 U.S.C. § 102

Claims 7 and 9 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Struhsaker et al. (U.S. Pub. No. 2002/0097685). This rejection is respectfully traversed.

Claim 7 has been amended to recite, "A system for providing a reduced signal-to-noise ratio requirement in time division multiple access (TDMA) links, within a mobile network, said system comprising: a first node; and a second node configured to transmit an initial TDMA signal burst to said first node, and wherein said first node configured to: receive the initial TDMA signal burst; determine initial link state variables of a link between the first and second nodes by interpreting a first preamble included in the initial TDMA signal burst, thereby synchronizing the first node to the initial TDMA signal burst; and update the initial link state variables utilizing a second preamble shorter than the first included in a second TDMA signal burst transmitted from said second node to said first node."

Applicant respectfully submits that Struhsaker et al. does not describe, show or suggest a system for providing a reduced signal-to-noise ratio requirement in time division multiple access (TDMA) links, within a mobile network. Rather, Struhsaker et al. describes an apparatus and an associated method by which to operate upon bursts data signals received at a receiving station, such as a base station of a fixed wireless access communication system. Through operation of an embodiment of the present invention, an increase in the speed and accuracy by which bursts of burst data signals are operated upon, when received at the receiving station, is possible. Characteristics of data bursts and *the channels* by which the data bursts are received are stored in memory as signal and channel profiles at the receiving station. The base

station receives a burst of data on a demand basis from the subscribers on an uplink and the base station has to process *each channel*.

One of ordinary skill in the art would readily understand that Time Division Multiple Access (TDMA) is a digital wireless telephony transmission technique that allocates each user a different time slot on a given frequency. TDMA is a method of digital wireless transmission that allows a large number of users to share access, in a time ordered sequence, to a single radio frequency channel without interference by assigning unique time slots to each user within the single channel. Thus, Struhsaker et al. does not describe, show or suggest a system for providing a reduced signal-to-noise ratio requirement in time division multiple access (TDMA) links.

Furthermore, Applicant respectfully submits that Struhsaker et al. does not describe, show or suggest such a TDMA system including the limitations recited in amended Claim 7. For example, Struhsaker et al. does not describe, show or suggest such a system including a first node and a second node that transmits an initial *TDMA* signal burst to the first node, wherein the first node determines initial link state variables of a link between the first and second nodes *by interpreting a first preamble* included in the initial TDMA signal burst, *thereby synchronizing* the first node to the initial TDMA signal burst. As a further example, Struhsaker et al. does not describe, show or suggest such a system wherein the second node updates the initial link state variables utilizing a second preamble that is shorter than the first preamble and included in a second TDMA signal burst transmitted from the second node to the first node.

Rather Struhsaker et al. describes an apparatus and method wherein characteristics of data bursts and the *channels* by which the data bursts are received are stored in memory as signal and channel profiles at the receiving station. The profiles are updated, *as appropriate*, and include the information required by the demodulators to permit their operation to demodulate bursts of data received by the demodulators. When a burst of data is provided to a demodulator, a profile associated with the channel upon which the burst is communicated to the base station and *utilized in the demodulation of the burst of data*. As the burst of data is demodulated, the

values of the profile associated with the channel upon which the data burst is communicated are updated *as appropriate*.

Thus, Struhsaker et al. does not describe, show or suggest a system for providing a reduced signal-to-noise ratio requirement in time division multiple access (TDMA) links, within a mobile network, nor such a system that includes the limitations recited in amended Claim 7. Therefore, for at least the reasons set forth above, Applicant respectfully submits that amended Claim 7 is patentable over Struhsaker et al.

Claim 9 depends from amended Claim 7, when the recitation of Claim 9 are considered in combination with the recitations of amended Claim 7, Applicant respectfully submits that Claim 9 is likewise patentable over Struhsaker et al.

Therefore, for at least the reasons set forth above, Applicant respectfully requests that the §102 rejections of Claims 7 and 9 be withdrawn.

REJECTION UNDER 35 U.S.C. § 103

Claims 1, 3-6 and 10-15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Struhsaker et al. (U.S. Pub. No. 2002/0097685) in view of Mullins et al. (U.S. Pat. No. 5,404,374). This rejection is respectfully traversed.

1. Regarding Claims 1 and 3-6, Claim 1 has been amended to recite, "A method for reducing a required signal-to-noise ratio in a time division multiple access (TDMA) link of a mobile network, the network including a first node and a second node, the method comprising: receiving at the first node an initial TDMA signal burst from the second node; determining initial link state variables of a link between the first and second nodes by interpreting a first preamble included in the initial TDMA signal burst, thereby synchronizing the first node to the initial TDMA signal burst; and updating the initial link state variables utilizing a second preamble shorter than the first preamble included in a second TDMA signal burst from the second node at the first node."

Applicant respectfully submits that neither Struhsaker et al. nor Mullins et al. describe, show or suggest a method for reducing a required signal-to-noise ratio in a time division multiple access (TDMA) link of a mobile network. As set forth above,

Struhsaker et al. describes a system wherein a base station receives a burst of data on a demand basis from the subscribers on an uplink and the base station has to process *each channel*. Mullins et al. describes an encoding and decoding technique for improving the probability of recovery of a coded, *slow-frequency hopped transmission* in a decentralized environment, where no master control station is present. In a communication system for networking a plurality of stations, each of which includes a transmitter and a receiver, a method is described herein for encoding a packet of data in a transmitting station that transmits the packet in a series of N bursts. The data units are transmitted in a series of bursts, each on a different channel in a predetermined hop sequence. Thus, neither Struhsaker et al. nor Mullins et al. describe, show or suggest a system for providing a reduced signal-to-noise ratio requirement in time division multiple access (TDMA) links.

Furthermore, Applicant respectfully submits that neither Struhsaker et al. nor Mullins et al. describe, show or suggest such a TDMA method including the limitations recited in amended Claim 1. For example, neither Struhsaker et al. nor Mullins et al. describe, show or suggest such a method including receiving at the first node an initial TDMA signal burst from a second node and determining initial link state variables of a link between the first and second nodes by interpreting a fisrt preamble included in the initial TDMA signal burst, thereby synchronizing the first node to the initial TDMA signal burst. As a further example neither Struhsaker et al. nor Mullins et al. describe, show or suggest such a method that includes updating the initial link state variables utilizing a second preamble that is shorter than the first preamble and included in a *second* TDMA signal burst from the second node at the first node.

As set forth above, Struhsaker et al. describes an apparatus and method wherein characteristics of data bursts and the channels by which the data bursts are received are stored in memory as signal and channel profiles at the receiving station and updated, *as appropriate*, and include the information required by the demodulators to permit their operation to demodulate bursts of data received by the demodulators. Mullins et al. describes a plurality of bursts 700 that are formed from the B PDU data fields 620. Each of the bursts 700 are utilized by the RF Hopping Protocol. To be

usable by the RF Hopping Protocol, preambles 740 are added preceding each of the B.sub.-- PDUs 710. The preambles 740 include two types of fields: a SYNC field ("SYNC.sub.-- FLD") 750 and a FRAME field ("FRM.sub.-- FLD") 756. The SYNC FLDs 750 have two versions: a first SYNC.sub.-- FLD version 762 which precedes each of the *first three* B.sub.-- PDUs 710 to be transmitted and a second, shorter SYNC.sub.-- FLD version 764 which precedes the *last two* B.sub.-- PDUs 710 to be transmitted. The longer first SYNC.sub.-- FLD version 762 is *useful for the first three bursts 700* because they are transmitted *on channels* which are scanned by the receiving stations. The shorter preambles 764 are *used on the frequencies not scanned* because the receiving station already knows to expect them.

Thus, neither Struhsaker et al. nor Mullins et al. describe, show or suggest a method for reducing a required signal-to-noise ratio in a time division multiple access (TDMA) link of a mobile network, nor such a method that includes the limitations recited in amended Claim 1.

Additionally, Applicant respectfully submits that there is no suggestion in Struhsaker et al. or Mullins et al. to combine the features described in each respective piece of cited art to obtain the present invention as recited in amended Claim 1. It is well recognized that absent some teaching, suggestion or incentive supporting the combination of the cited references, obviousness cannot be established by merely suggesting that it would have been obvious to one of ordinary skill in the art to have selected an alternative design choice. Applicant submits that it would not have been an obvious matter of design choice to simply take the isolated teaching of Struhsaker et al. and Mullins et al., where there is no suggestion or motivation to combine the teachings of these references, to construct the present invention as recited in amended Claim 1.

Further yet, it is impermissible to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art. It is furthermore impermissible to engage in hindsight reconstruction of the claimed invention, using the Applicant's structure as a template

and selecting elements from references to fill the gaps. The references themselves must provide some teaching whereby Applicant's combination would have been obvious. Interconnect Planning, 227 USPQ 551. In this instance it appears that the Applicant's own disclosure has been used as a "roadmap" to piecemeal together the teachings of various references where the references do not suggest the desirability or motivation of combining the references. Obviousness cannot be established by merely suggesting that it would be obvious to one of ordinary skill in the art to have selected an alternative design choice.

Therefore, for at least the reasons set forth above, Applicant respectfully submits that amended Claim 1 is patentable over Struhsaker et al. in view of Mullins et al.

Claims 3-6 depend from amended Claim 1, when the recitation of Claims 3-6 are considered in combination with the recitations of amended Claim 1, Applicant respectfully submits that Claims 3-6 are likewise patentable over Struhsaker et al. in view of Mullins et al.

2. Regarding Claims 13-15, Claim 13 has been amended, as set froth above, to include limitations similar to those recited in amended Claim 1. Therefore, in accordance with the remarks set forth above with regard to amended Claim 1, Applicant respectfully submits that amended Claim 13 is likewise patentable over Struhsaker et al. in view of Mullins et al.

Claims 14 and 15 depend from amended Claim 13, when the recitation of Claims 14 and 15 are considered in combination with the recitations of amended Claim 13, Applicant respectfully submits that Claims 14 and 15 are likewise patentable over Struhsaker et al. in view of Mullins et al.

3. Regarding Claims 8 and 10-12, Claim 7 has been amended, as set froth above, to include limitations similar to those recited in amended Claim 1. Therefore, in accordance with the remarks set forth above with regard to amended Claim 1, Applicant respectfully submits that amended Claim 7 is likewise patentable over Struhsaker et al. in view of Mullins et al.

Claims 8 and 10-12 depend from amended Claim 7, when the recitation of Claims 8 and 10-12 are considered in combination with the recitations of amended Claim 7, Applicant submits that Claims 8 and 10-12 are likewise patentable over Struhsaker et al. in view of Mullins et al.

For at least the reasons set forth above, Applicant respectfully requests that the §103 rejections of Claims 1, 3-6 and 10-15 be withdrawn.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (314) 726-7525.

Respectfully submitted,

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